TECHNICAL BULLETIN

[Issue No.] GOT-A-0010-S **[Page]** 1/28
[Title] List of Valid Devices Applicable for GOT1000 Series
[Date of Issue] Ver.S: December 2010 (First Edition: September 2005)
[Relevant Models] GOT1000 Series

Thank you for your continued support of Mitsubishi Graphic Operation Terminal (GOT).
The peripheral devices listed in this bulletin have been concluded by Mitsubishi to be applicable for the GOT1000 series.
Regarding the production status of each product, confirm with the manufacturer.

Recommended Product
A product that complies with our standard.
Make sure that you use the product compliant with the specification (standard).
Compatible Product
A product that satisfies the requirements to be interfaced with Mitsubishi products.
(Note that satisfaction of Mitsubishi specifications is not guaranteed.)
Therefore, make sure to comply with the specifications for that product when using it together with Mitsubishi products.
Even when Compatible Products are used, some products may not be compatible with the GOT 1000 series. Because the specifications of the products are changed according to the date of manufacture. When using Compatible Products, examine the products fully and decide whether to use or not.
Discontinued Product
A product that has been introduced as Recommended Product or Compatible Product in the bulletin before. We think that you will have difficulty to obtain the product because of production discontinuation and others.
Incompatible Product
A product that does not satisfy the requirements to be interfaced with Mitsubishi products.
Use Compatible Product.

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MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE : TOKYO BUILDING, 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
NAGOYA WORKS : 1-14, YADA-MINAMI 5-CHOME, HIGASHI-KU, NAGOYA, JAPAN

1. Memory Card (CF card)

Please refer to the Technical Bulletin No.GOT-A-0025 “Operation check results of third party CF cards on GOT1000 Series units”.

2. USB Memory

A USB memory is available only for the GT16.

Item	Specification
USB memory	USB memory compatible with USB1.1 (including forward-compatible USB memory) *1*2

*1: Maximum USB memory is 2GB.
When the GOT has the BootOS with [05.09.00.AF] or later and the standard monitor OS with [05.09.00] or later, the maximum USB memory is 32GB.

*2: A USB memory with a particular function and others may not be available depending on the USB memory type.
Particular function examples:
- A composite device (including a hub function and a card reader function)
- A USB memory with an authentication function, an encryption function, or a security function including an anti-virus function and others
- A USB memory whose functions are added by dedicated driver software.

3. Barcode Reader

(Compatible Product)

Manufacturer	Model		
NEC Infrontia Corporation	BCH5542-STA	BCR5342H-STZ	
AIMEX Corporation	BR-530RS-B1		
IDEC DATALOGIC Corporation	DS2200-1100 *1 GRYPHON D130	DS2100-1114 *2	GRYPHON D100
OMRON Corporation	V520-RH21-6		
OPTOELECTRONICS CO.,LTD.	OPT-5125-RS232C(H)	OPL-6735-RS232C(X04)	NFT-7175-RS-1
KEYENCE CORPORATION	BL-210R BL-N70R	BL-210RK *2 SR-510	BL-601
TOHKEN CO.,LTD	TLMS-3500RV	THLS-6712 *1	THLS-6800 *2
Nippon Systems Development Co.,Ltd.	AC-812-000-D1	PDC-812-400-00+PDC-812-300-D1	
Symbol Technologies, Inc.	LS2208		
Honeywell International Inc	3800G-04E		

*1: GT11 is available only.
*2: GT16 or GT15 is available only.

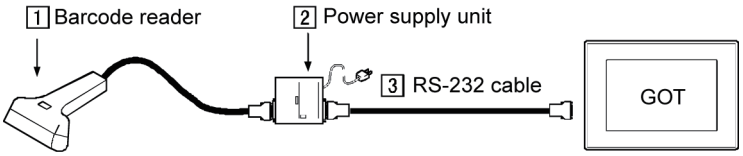
(Restricted Compatible Product)

Manufacturer	Model
AIMEX Corporation	BW-880RS-B1 *1

*1: For the GT16 or GT15, turn on the barcode reader after any of the following conditions.
- More than two seconds pass after the GOT is turned on.
- The logo [GOT1000] is displayed on the screen after the GOT is turned on.

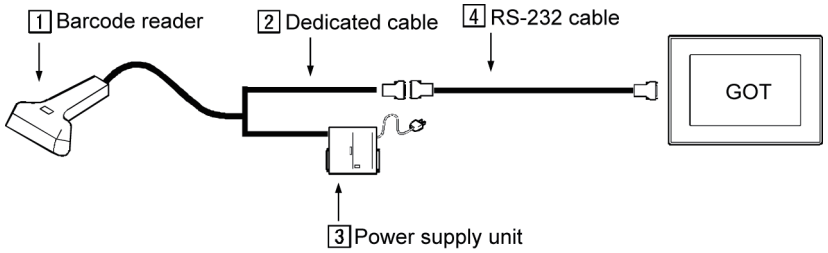
(1) System equipment

The following shows the equipment to configure with different types of barcode readers.

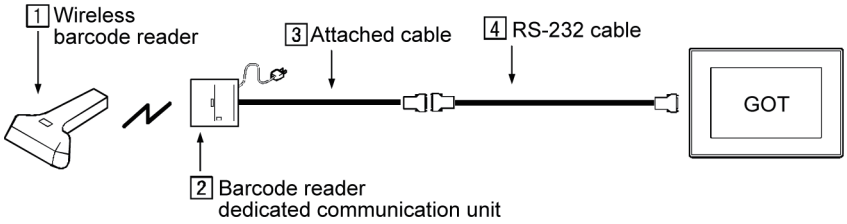


Manufacturer	1 Barcode reader	2 Power supply unit	3 RS-232 cable
NEC Infrontia Corporation	BCH5542-STA	BCV5070 or CA1071	GT01-C30R2-9S *1
	BCR5342H-STZ	BCV5070 or BCA1071	GT01-C30R2-9S *1
AIMEX Corporation	BR-530RS-B1	Included with a barcode reader (An adapter (BB-60) must be purchased separately.)	Included with a barcode reader
	BW-880RS-B1	Included with a barcode reader	Included with a barcode reader
IDEC DATALOGIC Corporation	DS2200-1100	DSPW-2102	GT01-C30R2-25P*1
	DS2100-1114	DSPW-2102	GT01-C30R2-25P*1
	GRYPHON D100	PG5 MAIN POWER BLOCK	Included with a barcode reader
	GRYPHON D130	UL310-0515	Sold separately: CAB-327/CAB-350/CAB-362
OPTOELECTRONICS CO.,LTD.	OPT-5125-RS232C(H)	Not necessary	Included with a barcode reader *2
	OPL-6735-RS232C(X04)	DC-5300T	Included with a barcode reader
	NFT-7175-RS-1	GT16/GT15: Not necessary GT11: DC-5300T	GT16/GT15: Included with a barcode reader GT11: A cable with jack for the power supply is required.
KEYENCE CORPORATION	BL-210R	Included with a barcode reader	Included with a barcode reader
	BL-210RK	Not necessary	Produced by the user Refer to 2 (a) in Section 3. (5VDC is required.)
	BL-601	BL-U1	Produced by the user Refer to 2 (b) in Section 3. *3
		BL-U2	Produced by the user Refer to 2 (c) in Section 3. *4
	BL-N70R	R3W005-025J	Included with a barcode reader
	SR-510	BL-U2	GT01-C30R2-9S
TOHKEN CO.,LTD	TLMS-3500RV	Not necessary *5	GT01-C30R2-25P *1
	THLS-6712	AD-6712	Included with a barcode reader
	THLS-6800	An adapter must be purchased separately.	Included with a barcode reader

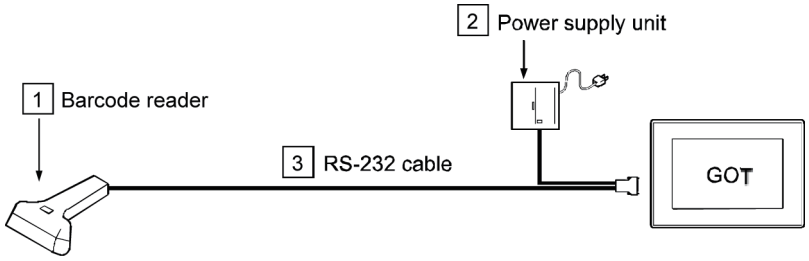
*1: This is a Mitsubishi Electric product. Please contact your local Mitsubishi Electric or representative for purchasing the cable.
*2: When purchasing OPT-5125-RS232C(H), select one with the same connector shape as OPL-6735-RS232C(X04).
*3: The OP-22149(1.5m) and the OP-25057 (conversion connector) manufactured by KEYENCE CORPORATION are available.
*4: The OP-27937(2m) manufactured by KEYENCE CORPORATION is available.
*5: It is necessary to supply 24VDC to the barcode reader separately. For details, please refer to the manual of the barcode reader to be used.



Manufacturer	1 Barcode reader	2 Dedicated cable	3 Power supply unit	4 RS-232 cable
OMRON Corporation	V520-RH21-6 (With dedicated cable)	V509-W012	S8VS-03005(A 100VAC plug cable must be purchased separately.)	Produced by the user Refer to 2 (d) in Section 3.
Symbol Technologies, Inc.	LS2208	Included with a barcode reader	symbol 50-14000-101R	Not necessary



Manufacturer	1 Wireless barcode reader	2 Barcode reader dedicated communication unit	3 Attached cable	4 RS-232 cable	
Nippon Systems Development Co.,Ltd.	AC-812-000-D1 PDC-812-400-00 + PDC-812-300-D1	Included with a barcode reader	Included with a barcode reader	GT16	Extended function OS Barcode [04.00.**] or more 4 The RS-232 cable is not required.
				GT15	Extended function OS Barcode [03.00.00] or more 4 The RS-232 cable is not required.
					Barcode [02.04.**] or less Produced by the user. Refer to 2 (e) in Section 3.
				GT11	4 The RS-232 cable is not required. 3 By using the attached cable, a barcode reader can be connected to the GOT.



Manufacturer	1 Barcode reader	2 Power supply unit	4 RS-232 cable
Honeywell International Inc	3800G-04E	An adapter must be purchased separately.	Included with a barcode reader

(2) Connection cable

The following shows connection cables that must be produced by the user.
(Maximum cable length: confirm with the barcode reader manufacturer.)

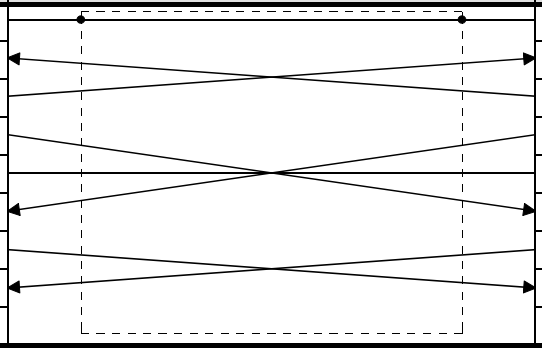
(a) Cable connection diagram for a barcode reader manufactured by KEYENCE CORPORATION (BL-210RK)

Barcode reader		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
SG	1		1	CD
RD(RXD)	2		2	RXD
SD(TXD)	3		3	TXD
ER(DTR)	4		4	DTR
SG	5		5	SG
DR(DSR)	6		6	DSR
RS(RTS)	7		7	RTS
CS(CTS)	8		8	CTS
5V	9		9	5V

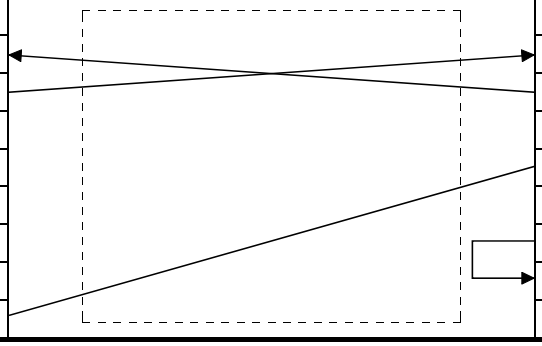
(b) Cable connection diagram for a barcode reader manufactured by KEYENCE CORPORATION (BL-601, BL-U1)

Barcode reader		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
FG	1			Connector
SD	2		2	RD
RD	3		3	SD
RS	4		4	ER
CS	5		5	SG
DR	6		6	DR
SG	7		7	RS
	8		8	CS
ER	20		9	——

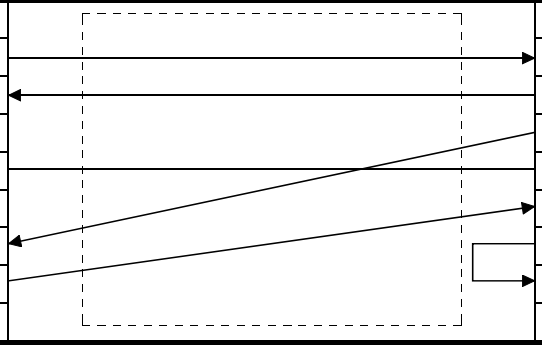
(c) Cable connection diagram for a barcode reader manufactured by KEYENCE CORPORATION (BL-601, BL-U2)

Barcode reader		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
Connector				Connector
RD	2		2	RD
SD	3		3	SD
ER	4		4	ER
SG	5		5	SG
DR	6		6	DR
RS	7		7	RS
CS	8		8	CS
——	9		9	——

(d) Cable connection diagram for a barcode reader manufactured by OMRON Corporation

Barcode reader			Cable connection and signal direction	GOT	
Signal direction	Signal name	Pin No.		Pin No.	Signal name
	——	1		1	CD
	SD(TXD)	2		2	RXD
Internal connection	RD(RXD)	3		3	TXD
	RS(RTS)	4		4	DTR
	CS(CTS)	5		5	SG
	——	6		6	DSR
	——	7		7	RTS
	——	8		8	CTS
	SG	9		9	——

(e) Cable connection diagram for a barcode reader manufactured by Nippon Systems Development Co.,Ltd.

Barcode reader		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
——	1		1	CD
SD(TXD)	2		2	RXD
RD(RXD)	3		3	TXD
——	4		4	DTR
SG	5		5	SG
DTR(ER)	6		6	DSR
CS(CTS)	7		7	RTS
RS(RTS)	8		8	CTS
SG	9		9	——

(3) Compatible barcode types

The following barcode reader communication settings are supported by the GOT.

○:Compatible □: Partly restricted —: Not compatible

Manufacturer	Barcode reader	Barcode type									
		WPC (JAN, EAN, UPC)	CODE-39	CODE-93	CODE-128	NW-7 (CODABAR)	2of5 (industrial)	ITF (2of5Interleaved)	MSI/Plessy	IATA 2of5	STF (2of5 5bar)
NEC Infrontia Corporation	BCH5542-STA	○	○	○	○	○	○	○	—	—	—
	BCR5342H-STZ	○	○	○	○	○	○	○	—	—	—
AIMEX Corporation	BR-530RS-B1	○	○	○	○	○	—	○	—	—	—
	BW-880RS-B1	○	○	○	○	○	○	○	○	—	—
IDEC DATALOGIC Corporation	DS2200-1100	○	○	○	○	○	—	○	—	—	—
	DS2100-1114	○	○	○	○	○	—	○	—	—	—
	GRYPHON D100	○	○	○	○	○	○	○	○	—	—
	GRYPHON D130	○	○	○	○	○	○	○	—	—	—
OMRON Corporation	V520-RH21-6	○	○	○	○	○	—	○	—	—	○
OPTOELECTRONICS CO.,LTD.	OPT-5125-RS232C(H)	○	○	○	○	○	○	○	○	—	—
	OPL-6735-RS232C(X04)	○	○	○	○	○	○	○	○	—	—
	NFT-7175-RS-1	○	○	○	○	○	○	—	○	—	—
KEYENCE CORPORATION	BL-210R	○	○	○	○	○	○	○	—	—	—
	BL-210RK	○	○	○	○	○	—	—	—	—	—
	BL-601	○	○	○	○	○	○	○	—	—	—
	BL-N70R	○	○	○	○	○	—	○	○	—	—
	SR-510	○	○	○	○	○	○	○	—	—	—
TOHKEN CO.,LTD	TLMS-3500RV	□*1	○	—	○	○	—	○	—	—	—
	THLS-6712	○	○	○	○	○	—	○	—	—	—
	THLS-6800	○	○	○	○	○	—	○	—	—	—
Nippon Systems Development Co.,Ltd.	AC-812-000-D1	○	○	—	○	○	○	○	—	—	—
Symbol Technologies, Inc.	LS2208	○	○	○	○	○	—	○	—	—	—
Honeywell International Inc	3800G-04E	○	○	○	○	○	—	○	—	○	—

*1: Only JAN is supported.

(4) How to read data by a barcode reader

Please refer to the followings for the data transfer format (header/terminator settings and others) that can be used in the GOT or the setting method to read data by a barcode reader.

(a) Data transfer format (header/terminator settings and others) that can be used in the GOT.

(b) Setting to connect a barcode reader to the GOT. ([Peripheral Setting] on GT Designer3 or [Communication Settings] on GT Designer2)

(c) Setting to write the data, read by a barcode reader, to the PLC CPU. ([Detail Setting] in the [Bar Code] dialog box on GT Designer3 or [Detail Setting] in the [Bar Code] dialog box on GT Designer2)
Refer to the following.
- GT Designer3 Version□ Screen Design Manual (Fundamentals) (SH-080866ENG)
- GT Designer2 Version□ Screen Design Manual (SH-080530ENG)

(d) Setting procedure from connecting a barcode reader to the GOT until reading a barcode.
Refer to the following.
- GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) for GT Works3 (SH-080871ENG)
- GOT1000 Series Connection Manual (SH-080532ENG)

4. 2D Code Reader

(Compatible Product)

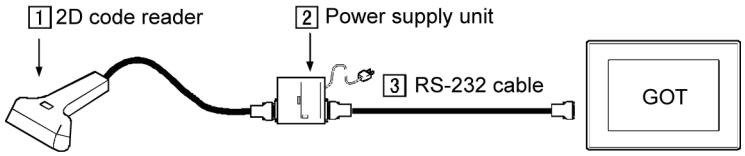
Manufacturer	Barcode type		
AIMEX Corporation	IT4600SR-RS		
OMRON Corporation	V400-F250		
OPTOELECTRONICS CO.,LTD.	OPD-7435	NFD1267 *1	
KEYENCE CORPORATION	TL-30	TL-40	SR-510
Cognex K.K.	DataMan 100	DataMan 7500/7500LR	DataMan 7550/7550LR
	DataMan 750/750S	DataMan 200 *3	
DENSO WAVE INCORPORATED	GT10Q-SB	GT10Q-SR	GT11Q-SR
	QB20/20-HD *2	QB20K *1	QD20
	AT10Q-SM		
TOHKEN CO.,LTD	THIR-3000N	TFIR-3102 *2	
	THIR-6000	TFIR-31	THIR-6200DDM
Symbol Technologies, Inc.	DS6608-RS-DOS/V		

*1: GT16 or GT15 is available only. (5VDC is required.)
*2: GT11 is available only.
*3: Configure the communication settings of the DataMan 200 and the GOT as shown below.

Setting item	Set value
Baud rate	115200 bps
Data length	8 bits or 7 bits
Stop bit	None, Even number or odd number
Parity	1 bit or 2 bits

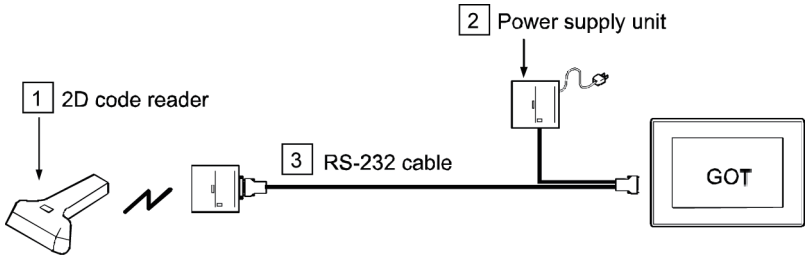
(1) System equipment

The following shows the equipment to configure with different types of 2D code readers.

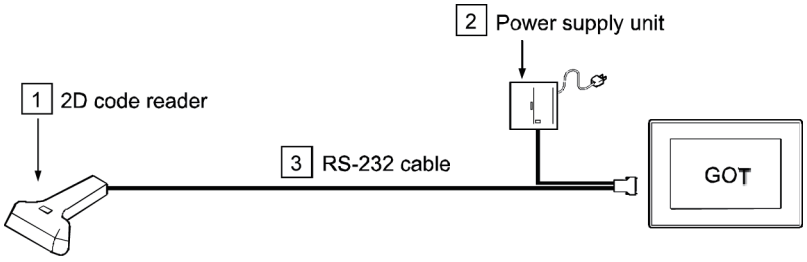


Manufacturer	1 2D code reader	2 Power supply unit	3 RS-232 cable
AIMEX Corporation	IT4600SR-RS	Included with a 2D code reader	Included with a 2D code reader
OMRON Corporation	V400-F250	Not necessary *1*2	Purchased by the user (V400-W24) Including a 24VDC power cable
OPTOELECTRONICS CO.,LTD.	OPD-7435	Included with a 2D code reader	Included with a 2D code reader
	NFD1267	Not necessary *3	Produced by the user Refer to 2 (b) in Section 4. (5VDC is required.)
KEYENCE CORPORATION	TL-30	TL-U1	For GT11, included with a 2D code reader For GT16 or GT15, refer to 1 (b) in Section 4.
	TL-40	TL-U1	Included with a 2D code reader
	SR-510	BL-U2	GT01-C30R2-9S *4
Cognex K.K.	DataMan 100	DM100-RWR-000	DM100-RS232-000
	DataMan 7500	Included with a 2D code reader	DM42206139-04
	DataMan 7550	Included with a 2D code reader	DM42203758-03S
DENSO WAVE INCORPORATED	GT10Q-SR	Included with a 2D code reader	Included with a 2D code reader
	GT11Q-SR	Included with a 2D code reader	Included with a 2D code reader
	QB20/20-HD	2000639	496800-0040
	QB20K	Included with a 2D code reader	Included with a 2D code reader
	QD20	Not necessary *1*2	Produced by the user Refer to 2 (d) in Section 4.
TOHKEN CO.,LTD	THIR-3000N	S-8440	Included with a 2D code reader
	TFIR-3102	Not necessary *1	Produced by the user Refer to 2 (a) in Section 4.
	THIR-6000	Included with a 2D code reader	Included with a 2D code reader
	TFIR-31	Included with a 2D code reader	Included with a 2D code reader
	THIR-6200DDM	Included with a 2D code reader	Included with a 2D code reader
Symbol Technologies, Inc.	DS6608-RS-DOS/V	Included with a 2D code reader	Included with a 2D code reader

*1: It is necessary to supply 24VDC to the 2D code reader separately. For details, please refer to the manual of the 2D code reader to be used.
*2: For adjusting settings of the 2D code reader by using the monitor, please refer to the manual of the 2D code reader to be used.
*3: It is necessary to supply 5VDC to the 2D code reader separately. For details, please refer to the manual of the 2D code reader to be used.
*4: This is a Mitsubishi Electric product. Please contact your local Mitsubishi Electric or representative for purchasing the cable.



Manufacturer	1 2D code reader	2 Power supply unit	3 RS-232 cable
DENSO WAVE INCORPORATED	GT10Q-SB	Included with a 2D code reader (A Bluetooth adapter (BA-10RKU) must be purchased separately.)	CBBA-RS2000/9



Manufacturer	1 2D code reader	2 Power supply unit	3 RS-232 cable
DENSO WAVE INCORPORATED	AT10Q-SM	Included with a 2D code reader	Included with a 2D code reader
Cognex K.K.	DataMan 750 DataMan 750S	DMA-24KIT-00, DM100-PWR-000	DM700-RS232-00

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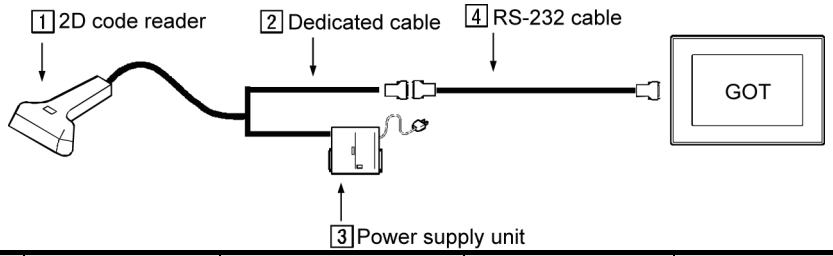
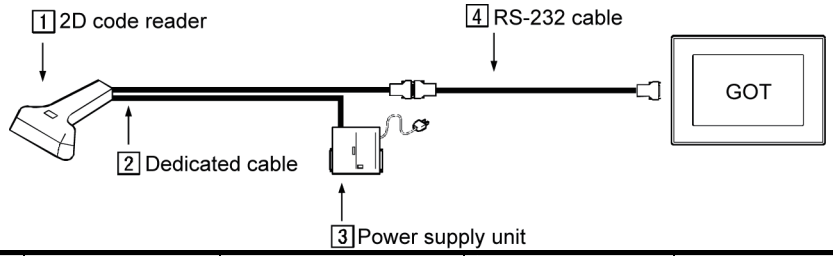


Manufacturer	1 2D code reader	2 Dedicated cable	3 Power supply unit	4 RS-232 cable	
KEYENCE CORPORATION	TL-30	Included with a 2D code reader	TL-U1	GT16	Extended function OS Barcode [04.00.**] or more 4 The RS-232 cable is not required.
				GT15	Extended function OS Barcode [03.00.00] or more 4 The RS-232 cable is not required.
					Extended function OS Barcode [02.04.**] or less Produced by the user. Refer to 2 (e) in Section 4.
				GT11	4 The RS-232 cable is not required. 2 By using the attached cable, a 2D code reader can be connected to the GOT.

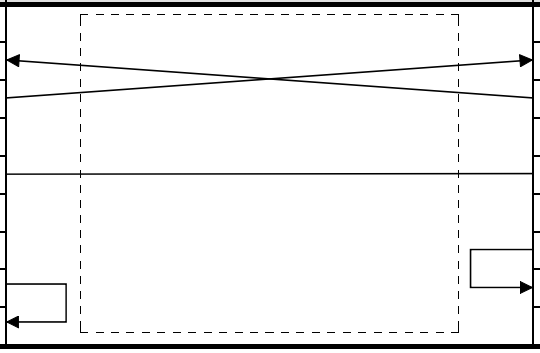


Manufacturer	1 2D code reader	2 Dedicated cable	3 Power supply unit	4 RS-232 cable
Cognex K.K.	DataMan 200	CCB-84901-1003-□□	CPS-AC-POE1A-□□	CCB-M8X4-□□

(2) Connection cable

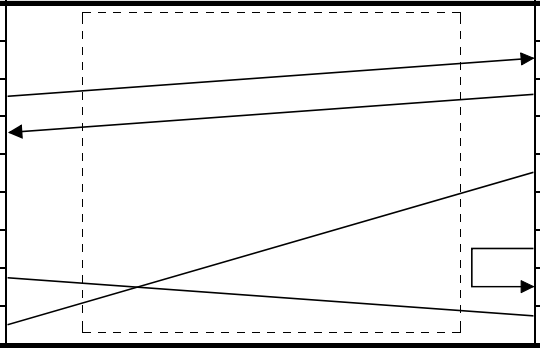
The following shows connection cables that must be produced by the user.
(Maximum cable length: confirm with a 2D code reader manufacturer.)

(a) Cable connection diagram for a 2D code reader manufactured by TOHKEN CO.,LTD

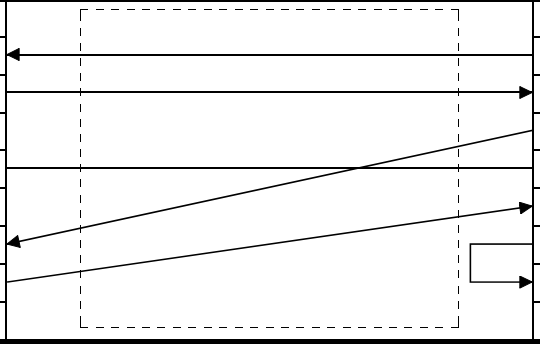
2D code reader		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
—	—		1	CD *1
RXD /RD-	2		2	RD(RXD)
TXD /TD+	3		3	SD(TXD)
—	—		4	DTR(ER)
GND	5		5	SG
—	—		6	DSR(DR)
—	—		7	RS(RTS)
RTS	11		8	CS(CTS)
CTS	12		9	—

*1: NC for GT11

(b) Cable connection diagram for a 2D code reader manufactured by OPTOELECTRONICS CO.,LTD.

2D code reader		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
Trigger	Green		1	CD
OK-	Yellow		2	RD(RXD)
NG	Blue		3	SD(TXD)
SD	Purple		4	DTR(ER)
RD	Orange		5	SG
RS	Brown		6	DSR(DR)
CS	Gray		7	RS(RTS)
+5V	Red		8	CS(CTS)
GND	White		9	5V

(c) Cable connection diagram for a 2D code reader manufactured by KEYENCE CORPORATION

2D code reader		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
N.C	1		1	CD
SD(TXD)	2		2	RD(RXD)
RD(RXD)	3		3	SD(TXD)
N.C	4		4	DTR(ER)
SG	5		5	SG
N.C	6		6	DSR(DR)
CS(CTS)	7		7	RS(RTS)
RS(RTS)	8		8	CS(CTS)
N.C	9		9	—

(d) Cable connection diagram for a 2D code reader manufactured by DENSO WAVE INCORPORATED

2D code reader		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
—	—		—	—
/TXD	2		2	RXD
/RXD	3		3	TXD
—	—		—	—
GND	5		5	SG
—	—		—	—
CTS	7		7	RTS
RTS	8		8	CTS
—	—		—	—

(3) Compatible 2D code type
Only “QR code” is supported by the GOT.

(4) How to read data by a 2D code reader
Please refer to the followings for the data transfer format (header/terminator settings and others) that can be used in the GOT or the setting method to read data by a 2D code reader.

(a) Data transfer format (header/terminator settings and others) that can be used in the GOT.

(b) Setting to connect a 2D code reader to the GOT. ([Peripheral Setting] on GT Designer3 or [Communication Settings] on GT Designer2)

(c) Setting to write the data, read by a 2D code reader, to the PLC CPU. ([Detail Setting] in the [Bar Code] dialog box on GT Designer3 or [Detail Setting] in the [Bar Code] dialog box on GT Designer2)
Refer to the following.
- GT Designer3 Version□ Screen Design Manual (Fundamentals) (SH-080866ENG)
- GT Designer2 Version□ Screen Design Manual (SH-080530ENG)

(d) Setting the procedure from connecting a 2D code reader to the GOT until reading 2D code data.
Refer to the following.
- GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) for GT Works3 (SH-080871ENG)
- GOT1000 Series Connection Manual (SH-080532ENG)

5. Hubs for Ethernet Connection and Gateway Function

(Compatible Product)

Manufacturer	Model		
Allied Telesis K.K.	CentreCOM FS708XL CentreCOM FS705TX	CentreCOM MR815TL CentreCOM FS705TX V2	CentreCOM RH505EL
I-O DATA DEVICE, INC.	ETX-ESH5	ETX-SH5	
KEYENCE CORPORATION	NE-V08		
PHOENIX CONTACT	FL SWITCH SF 8TX	FL SWITCH 5TX (Hardware version 13 or later)	
Mitsubishi Electric Corporation	NZ2EHG-T8		
Mitsubishi Cable Industries,Ltd.	ET10618	ST12904-AC	

(Discontinued Product *1)

Manufacturer	Model	
Allied Telesis K.K.	CentreCOM MR820TR	CentreCOM 3012TR V2
Mitsubishi Cable Industries,Ltd.	ST12608	

*1: Discontinued Products are not checked with GT16.

(Incompatible Product *2)

Manufacturer	Model
BUFFALO INC.	LSW-TX-5EP

*2: Incompatible Products are not checked with GT16.

6. Printer

Only for the GT16 and the GT15, PictBridge compatible printers and serial printers are available.

6.1 PictBridge compatible printer

By mounting the printer unit (GT15-PRN) on the GT16 or the GT15, a PictBridge compatible printer is available.
For the printer unit (GT15-PRN), only PictBridge compatible printer is connectable.
To use a PictBridge compatible printer, **GT Designer2/GT Works2 Version2.27D** or later, or **GT Designer3 Version1.01B** or later is required.

Precautions

PictBridge compatible printers are available, however the paper size, print area, or corrective actions for errors vary according to the type of the model. For details, follow the printer manual.

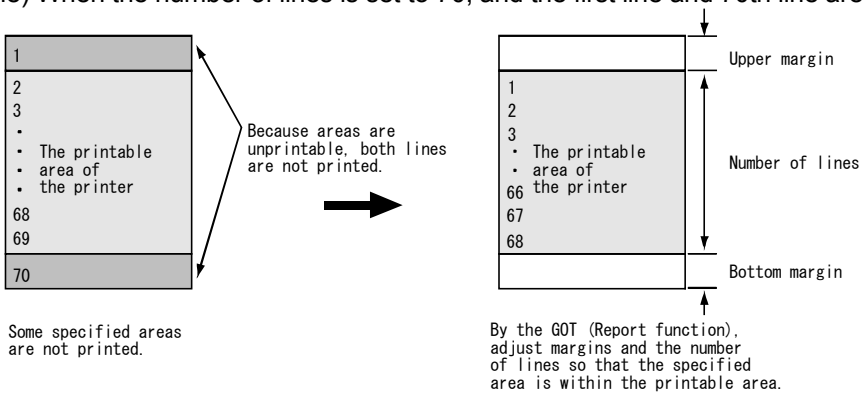
(1) Paper size

Regardless of the paper size set on the GOT, an image on the GOT may be printed at the size set on the printer.
When the paper size of the hard copy is specified other than the A4 size, an error may occur and the hard copy cannot be printed. Set the paper size to A4.

(2) Printable area

When using the report function of the GOT, the printable area varies according to the printer.
By the printer specifications, the trimming process is performed and some specified lines may not be printed. (The trimming process adjusts image dimensions to a full printable area specified for the paper size, and does not print the unprintable areas.)
When some areas are not printed, adjust margins and lines by using the report function of the GOT in accordance with the printer specifications. (Refer to the figure below.)

Example) When the number of lines is set to 70, and the first line and 70th line are unprintable


1
2
3
The printable area of the printer
68
69
70
Because areas are unprintable, both lines are not printed.
Upper margin
Number of lines
Bottom margin
Some specified areas are not printed.
By the GOT (Report function), adjust margins and the number of lines so that the specified area is within the printable area.

When some of lines are not printed for the report function of the GOT, configure the printer setting with no trimming. Doing so may print the lines correctly.

(3) Paper jam

For the paper jam, remove the paper, and then execute the printing process again by using the GOT.
When the printing process does not start after the above actions, execute any of the following methods.

(a) Press the cancel button on the printer to stop the printing process, and then execute the printing process again by using the GOT.
(b) Disconnect and connect the cable of the printer, and then turn on the printer again. (The printing process starts again automatically.)
(d) Press the OK button on the printer to stop the printing process. Then execute the printing process again by using the GOT.
(e) Press the cancel button on the printer. (The printing process starts again automatically.)

(4) Others

For some printers, the print enable/disable status notification signal (GS258.b3) may turn on before the preparations for printing are not completed.
Check the preparations for printing and then execute the printing process.

6.2 Serial printer

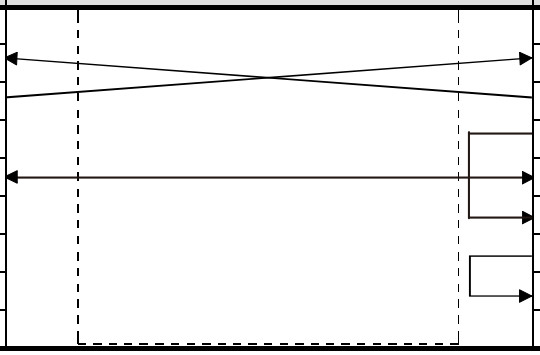
By connecting the GT15-RS2-9P to the GT16 or GT15 built-in interface, or by mounting the GT15-RS2-9P on the GT16 or the GT15, a serial printer is available.
To use a serial printer, **GT Designer3 Version1.17T** or later is required.
(Compatible Product)

Manufacturer	Model	Available hard copy size
NADA ELECTRONICS, LTD.	TP-642EG	QVGA, VGA *1
	TP-1728G	QVGA, VGA, SVGA, XGA
SEIKO EPSON CORPORATION	VP-700U	QVGA, VGA, SVGA

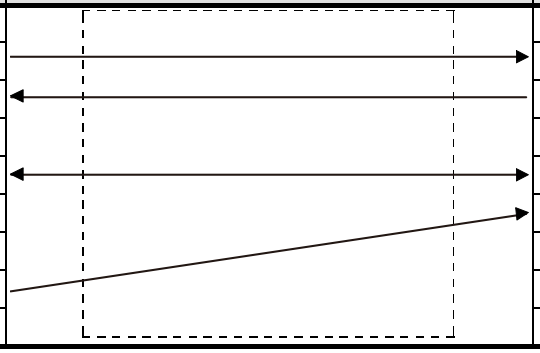
*1: Since the printing width of the data is larger than the paper width, set the printer to “Do not print unprintable area.” or “Reduce and print data.”

(1) Connection cable

The following shows connection cables that must be produced by the user.
(Maximum cable length: confirm with a printer manufacturer.)
(a) Cable connection diagram for a printer manufactured by NADA ELECTRONICS, LTD.

Printer		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
—	—		1	CD
RXD	2		2	RD(RXD)
TXD	3		3	SD(TXD)
—	—		4	DTR(ER)
GND	5		5	SG
—	—		6	DSR(DR)
RTS	7		7	RS(RTS)
CTS	8		8	CS(CTS)
—	—		9	—

(b) Cable connection diagram for a printer manufactured by SEIKO EPSON CORPORATION

Printer		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
—	—		1	CD
TXD	2		2	RD(RXD)
RXD	3		3	SD(TXD)
—	—		4	DTR(ER)
SIGNAL GND	7		5	SG
—	—		6	DSR(DR)
—	—		7	RS(RTS)
DTR	20		8	CS(CTS)
—	—		9	—

(2) Precautions

(a) Precautions for a printer manufactured by NADA ELECTRONICS, LTD.
- Monochrome printing
- If printing is interrupted due to a turned-off printer, cable disconnection, and others, turn off and then on the printer power, and perform the printing again.
- For printing with the report function, one-byte characters are printed as two-byte characters.
- For printing with the report function, the left margin setting of the print format is disabled.
- Since the printing paper is roll paper, the page break function is disabled.

(b) Precautions for a printer manufactured by SEIKO EPSON CORPORATION
- Monochrome printing
- If printing is interrupted due to a turned-off printer, cable disconnection, and others, turn off and then on the printer power, and perform the printing again.
- For printing with the report function, the available left margin setting of the print format ranges from 0 to 67.

7. Video Camera

Precautions

Some video cameras may require a separate power supply unit.
Regarding a required power supply unit for a video camera, confirm with the manufacturer.

(Compatible Product)

Manufacturer	Model		
Sony Corporation	XC-ST70 *1	XC-ST50 *1	XC-ST51 *1
	XC-ES50 *1	XC-ES50L *1	XC-ES51 *1
	XC-ES30 *1	XC-EI50 *1	XC-EI30 *1
	XC-ST70CE *2	XC-ST30CE *2	XC-ES30CE *2
TOSHIBA TELI CORPORATION	CS5260BD *3*4*5*6	CS5270B *3	CS8310Bi *1
	CS8311Bi *2	CS8420i *1	CS8430i *1
	CS8630i *1	CS8550i-51 *1*7	
Mitsubishi Electric Corporation	CIT-743 *3*8	CIT-772 *3*8	CIT-7300 *3*8
	CIT-7550 *3*8	CIT-8000 *3*8	CIT-8510M *3*8
	CIT-8800M *3*8	CIT-9510M *3*8	
	C-4010 *3*8		
	C-2910 *3*8	C-2915 *3*8	C-2600 *3*8
	C-2670 *3*8	C-2860 *3*8	

*1: EIA format (Monochrome) Set NTSC for the video input signal of the communication settings.
*2: CCIR format (Monochrome) Set PAL for the video input signal of the communication settings.
*3: NTSC format (Color)
*4: PAL format (Color)
*5: The type of the model is different from NTSC format and PAL format.
*6: The operation check is in progress with GT16.
*7: Set the 1/60s interlace mode for the video output mode (VIDEO) of the dipswitch on the camera rear panel.
*8: Some video cameras may require a separate power supply unit or the equipment for converting the specifications to Mitsubishi specifications. For details, check the manual of the video camera to be used.

(Discontinued Products *3)

Manufacturer	Model		
Mitsubishi Electric Corporation	CIT-722 *1*2		
	CIT-7500 *1*2	CIT-8510 *1*2	CIT-8800 *1*2
	CIT-9510 *1*2		

*1: NTSC format (Color)
*2: Some video cameras may require a separate power supply unit or the equipment for converting the specifications to Mitsubishi specifications. For details, check the manual of the video camera to be used.
*3: Discontinued Products are not checked with GT16.

8. Display

(Compatible Product)

Manufacturer	Model		
Dell Inc.	2007FP		
Mitsubishi Electric Corporation	RDT1714VM	RDT178LM	
	RDT158LM	RDT179LM	RDT195LM
	RDT191WLM	RDT201WLM	RDT221WLM
	RDT193WM	RDT203WM	RDT222WM
	RDT241W	RDT261WH	MDT221WG
	MDT242WG	LDT321V	LDT421V
	LDT461V		

(Discontinued Products)

Manufacturer	Model		
BUFFALO INC.	FTD-G722AS/F *1		
Mitsubishi Electric Corporation	MDT401S *1		
	RDT1712S *1	RDT1712V *1	RDT159V *1
	RDT176LM *1	RDT1713VM *1	RDT155LM *1
	RDT196S *1	RDT196V *1	
	MDT461S *1	MDT321S *1	MDT201WS *1
	RDT194LM	RDT177LM	

*1: Not checked with GT16.

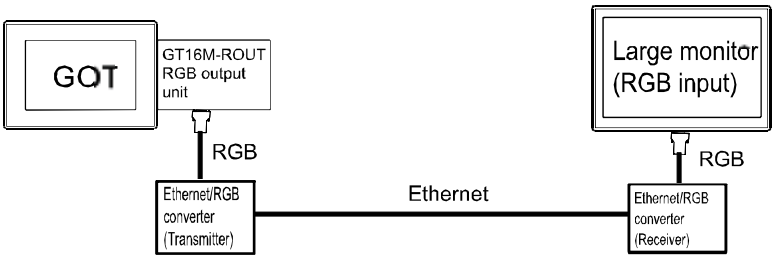
9. Display Related Equipment: Image Transmitter and Receiver

(Compatible Product)

Manufacturer	Model
CONTEC CO., LTD	Transmitter: RP-VL-S-01 *1*2 Receiver: RP-VL-R-01 *2

*1: This product can convert the analog RGB signals to the digital signals via Ethernet to transmit the screen images. For the RGB output from the GOT, the transmission distance can be extended. A dedicated receiver and others are required separately. For details, please refer to the manual of the manufacturer.

*2: The operation check is in progress with GT15.



10. Speaker

For a sound output unit of the GOT, use a speaker with amplifier.
Use a speaker compatible with the following specifications.

Item	Specification
Sound output terminal	For connecting external L/R speakers, 1 channel for each speaker (2Vp-p, 0.4mW (for rated load 10kΩ)
Applicable jack	Φ3.5 stereo mini jack, straight type
Playable file	Windows WAV format 8.000kHz, 16 bits, mono (8 seconds/sound file)

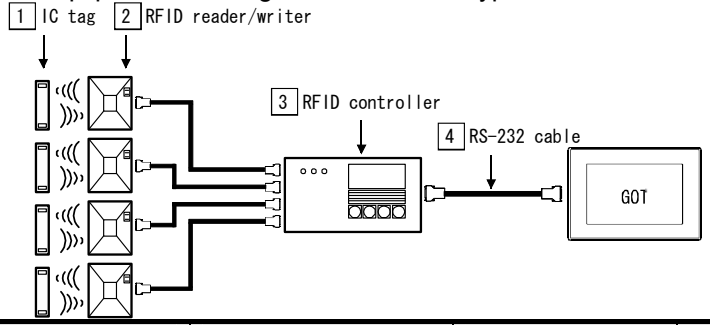
11. RFID Controller

(Compatible Product)

Manufacturer	Model
LS Industrial Systems Co., Ltd.	LSRF-C
MARS TECHNO SCIENCE Corp.	ICU-60S ICU-215
OMRON Corporation	V600/V620
PONGEE INDUSTRIES CO., LTD	PUA-310

(1) System equipment

The following shows the equipment to configure with different types of RFID controllers.



Manufacturer	1 IC tag	2 RFID reader/writer	3 RFID controller	4 RS-232 cable
LS Industrial Systems Co., Ltd.	LSRT125	LSRF-L	LSRF-C	Produced by the user Refer to 2 (a) in Section 10.
MARS TECHNO SCIENCE Corp.	Mifare(ISO14443 TypeA) card	ICU-60S (built-in a controller)		Produced by the user Refer to 2 (b) in Section 10.
		ICU-215 (built-in a controller)		Produced by the user Refer to 2 (c) in Section 10.
OMRON Corporation	V600-D□	V600-H□	V600-CA5D□	Produced by the user Refer to 2 (d) in Section 10.
	V620-D8KR01	V620-H□	V620-CA1A	Produced by the user Refer to 2 (e) in Section 10.
PONGEE INDUSTRIES CO., LTD	PUA-310-compatible tag	PUA-310 (built-in a controller)		Produced by the user Refer to 2 (f) in Section 10.

(2) Connection cable

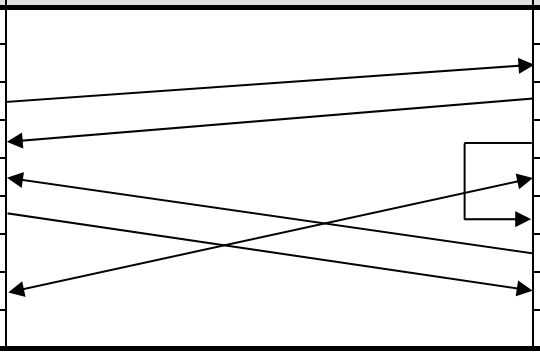
The following shows connection cables that must be produced by the user.
(Maximum cable length: confirm with the RFID controller manufacturer.)
(a) Cable connection diagram for an RFID controller manufactured by LS Industrial Systems Co., Ltd.

RFID controller		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
NC	1		1	CD *1
RD(RXD)	2		2	RD(RXD)
SD(TXD)	3		3	SD(TXD)
NC	4		4	DTR(ER)
SG	5		5	SG
NC	6		6	DSR(DR)
NC	7		7	RS(RTS)
NC	8		8	CS(CTS)
NC	9		9	—

*1: NC for GT11

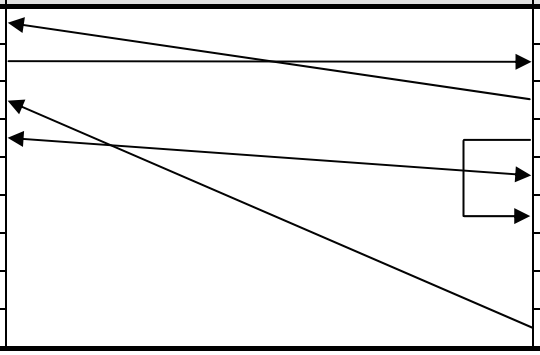
* For the cables between 2 and 3, refer to the manual created by LS Industrial Systems Co., Ltd.

(b) Cable connection diagram for an RFID controller manufactured by MARS TECHNO SCIENCE Corp. (ICU-60S)

RFID controller (ICU-60S)		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
+24V	1		1	CD *1
GND	2		2	RD(RXD)
TXD	3		3	SD(TXD)
RXD	4		4	DTR(ER)
CTS	5		5	SG
RTS	6		6	DSR(DR)
/RST	7		7	RS(RTS)
GND	8		8	CS(CTS)
—	9		9	—

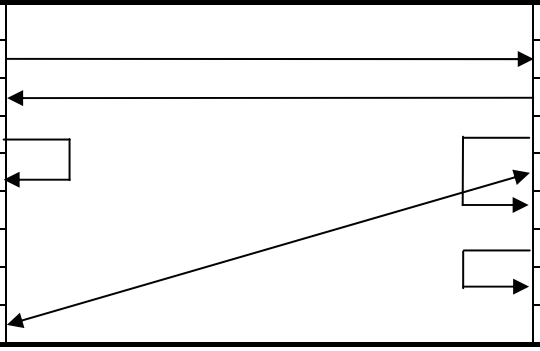
*1: NC for GT11
*For the cables between 2 and 3, refer to the manual created by MARS TECHNO SCIENCE Corp.

(c) Cable connection diagram for an RFID controller manufactured by MARS TECHNO SCIENCE Corp. (ICU-215)

RFID controller (ICU-215)		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
/RXD	1		1	CD *1
/TXD	2		2	RD(RXD)
+5V	3		3	SD(TXD)
GND	4		4	DTR(ER)
GND	5		5	SG
—	—		6	DSR(DR)
—	—		7	RS(RTS)
—	—		8	CS(CTS)
—	—		9	5V *2

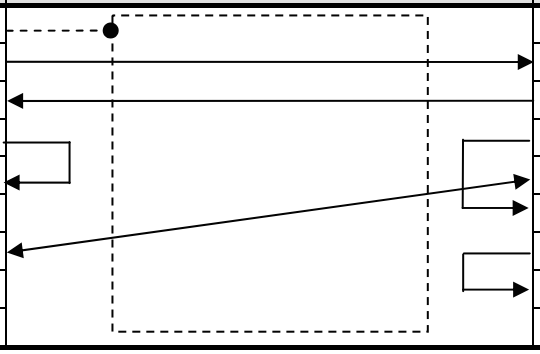
*1: NC for GT11
*2: Supply 5VDC to the RFID controller.
*For the cables between 2 and 3, refer to the manual created by MARS TECHNO SCIENCE Corp.

(d) Cable connection diagram for an RFID controller (V600) manufactured by OMRON Corporation

RFID controller		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
—	1		1	CD*1
SD	2		2	RD(RXD)
RD	3		3	SD(TXD)
RS	4		4	DTR(ER)
CS	5		5	SG
—	6		6	DSR(DR)
—	7		7	RS(RTS)
—	8		8	CS(CTS)
SG	9		9	—

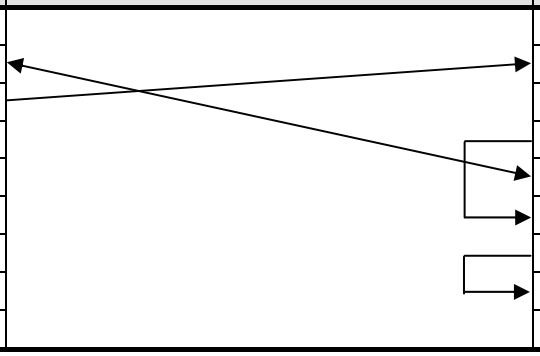
*1: NC for GT11
*For the cables between 2 and 3, refer to the manual created by OMRON Corporation

(e) Cable connection diagram for an RFID controller (V620) manufactured by OMRON Corporation

RFID controller		Cable connection and signal direction	GOT	
Signal name	Pin No.		Pin No.	Signal name
FG	1		1	CD *1
SD	2		2	RD(RXD)
RD	3		3	SD(TXD)
RS	4		4	DTR(ER)
CS	5		5	SG
—	6		6	DSR(DR)
SG	7		7	RS(RTS)
—	8		8	CS(CTS)
ER	20		9	—

*1: NC for GT11
*For the cables between 2 and 3, refer to the manual created by OMRON Corporation

(f) Cable connection diagram for an RFID controller manufactured by PONGEE INDUSTRIES CO., LTD

RFID controller		Cable connection and signal direction	GOT	
Signal name	Color		Pin No.	Signal name
+12VDC	Red		1	CD *1
Ground	Black		2	RD(RXD)
TX+	White		3	SD(TXD)
Shield/Ground	Yellow		4	DTR(ER)
—	—		5	SG
—	—		6	DSR(DR)
—	—		7	RS(RTS)
—	—		8	CS(CTS)
—	—		9	—

*1: NC for GT11
*For the cables between 2 and 3, refer to the manual created by PONGEE INDUSTRIES CO., LTD

(3) How to read data by an RFID controller

Please refer to the followings for the data transfer format (header/terminator settings and others) that can be used in the GOT or the setting method to read data by an RFID controller.

(a) Data transfer format (header/terminator settings and others) that can be used in the GOT.

(b) Setting to connect an RFID controller to the GOT. ([Peripheral Setting] on GT Designer3 or [Communication Settings] on GT Designer2)

(c) Setting to write the data, read by an RFID controller, to the PLC CPU. ([Detail Setting] in the [Bar Code] dialog box on GT Designer3 or [Detail Setting] in the [Bar Code] dialog box on GT Designer2)
Refer to the following.
- GT Designer3 Version□ Screen Design Manual (Fundamentals) (SH-080866ENG)
- GT Designer2 Version□ Screen Design Manual (SH-080530ENG)

(d) Setting procedure from connecting an RFID controller to the GOT until reading IC tag data.
Refer to the following.
- GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) for GT Works3 (SH-080871ENG)
- GOT1000 Series Connection Manual (SH-080532ENG)

(e) The send data and receive data for an RFID controller manufactured by MARS TECHNO SCIENCE Corp
1) ICU-60S
Send data: Set the data except STX and ETX to LF.
Receive data: The data except STX and ETX to LF are stored.
2) ICU-215
Send data: Set the data except STX and BCC to ETX.
Receive data: The data except STX and BCC to ETX are stored.

(4) The following RFID controllers are available for the external authentication.

Manufacturer	Model
LS Industrial Systems Co., Ltd.	LSRF-C
OMRON Corporation	V600/V620
PONGEE INDUSTRIES CO., LTD	PUA-310

12. Modem

To use a modem, **GT Designer3 Version1.01B** or later is required.

(Compatible Product)

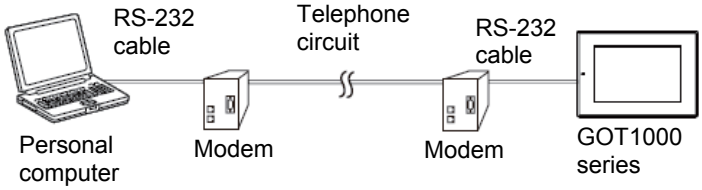
Manufacturer	Model
I-O DATA DEVICE, INC. *1	DFML-560ER
Yokogawa Electric Corporation *1	TN30
MITSUBISHI ELECTRIC *2	MIM-A01
MITSUBISHI ELECTRIC *2	MIM-G01
SIXNET *3	VT-MODEM

*1: For Japan
*2: For overseas (Europe)
*3: For overseas (North America)

(1) AT command list

Set AT commands according to a modem to be used.
AT commands to be used differ depending on whether the modem is connected to the GOT or the modem is connected to a personal computer.
For details of the AT commands, refer to the manual for each modem.

Model	Initialization command	
	Personal computer side *1	GOT side *2
DFML-560ER	AT&F0V1E0Q0%C0&K0&D0W2	AT&F0V1E0Q0%C0&K0&D0W2S0=1
TN30	AT&FV1E0Q0%C0&K0&D0W2	AT&FV1E0Q0%C0&K0&D0W2S0=1
MIM-A01 *3	AT&FV1E0Q0%C0&K0&D0W2+TFORMAT="8N1";+TBAUD="9600"	AT&FV1E0Q0%C0&K0&D0W2S0=1+TFORMAT="8N1";+TBAUD="9600"
MIM-G01 *4	AT&FE0%C0&K0&D0+CICB=0;+IPR=9600;+ICF=3,4;+IFC=0,0	AT&FE0%C0&K0&D0S0=1+CICB=0;+IPR=9600;+ICF=3,4;+IFC=0,0
VT-MODEM	AT&FQ0E0V1%C0&K0&D0W2	AT&FQ0E0V1%C0&K0&D0W2S0=1

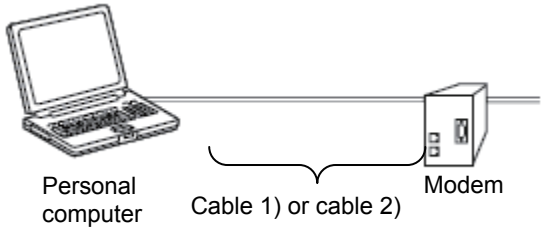


*1: Enter a command in the initialization command field for GOT Modem Connection Tool.
*2: Enter a command in the initialization command field of [Detail Setting] in the [I/F Communication Setting] dialog box on GT Designer3.
*3: Configure a communication setting of the MIM-A01 by using AT commands. To configure the setting, use AT commands (+TBAUD and +TFORMAT). The example shows the case when the baud rate is 9600bps, the data length is 8 bits, the parity is none, and the stop bit is 1 bit.
*4: Configure a communication setting of the MIM-G01 by using AT commands. To configure the setting, use AT commands (+IPR and +ICF). The example shows the case when the baud rate is 9600bps, the data length is 8 bits, the parity is none, and the stop bit is 1 bit.

(2) Connection cable

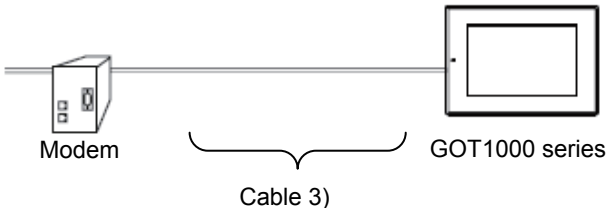
(a) Connection cable between a personal computer and a modem
- GT16, GT15, GT11, GT105□, GT104□, GT1020, GT1030

Model	Connection cable
	Between personal computer and modem
DFML-560ER	1)
TN30	1)
MIM-A01	2)
MIM-G01	2)
VT-MODEM	1)



(b) Connection cable between a modem and the GOT
- GT16, GT15, GT11, GT105□, GT104□

Model	Connection cable
	Between modem and GOT
DFML-560ER	3)
TN30	3)
MIM-A01	3)
MIM-G01	3)
VT-MODEM	3)



・GT1020, GT1030
For the connection between a modem and the GOT, a cable included with the modem and the GT10-C02H-6PT9P are required.

Model	Connection cable
	Between modem and GOT
DFML-560ER	3)+ GT10-C02H-6PT9P
TN30	3)+ GT10-C02H-6PT9P
MIM-A01	3)+ GT10-C02H-6PT9P
MIM-G01	3)+ GT10-C02H-6PT9P
VT-MODEM	3)+ GT10-C02H-6PT9P

(3) Cable connection diagram

(a) Cable 1)
A cable included with a modem is available. To create a cable by the user, refer to the following cable connection diagram.
The cable length must be up to 15m.

Personal computer	Cable connection	Modem
Pin No.		Pin No.
1		1
2		2
3		3
4		4
5		5
6		6
7		7
8		8
9		9

(b) Cable 2)

Create a cable by referring to the following cable connection diagram. The cable length must be up to 15m.

Personal computer Pin No.	Cable connection	Modem Pin No.
1		1
2		2
3		3
4		4
5		5
6		6
7		7
8		8
9		9

(c) Cable 3)

A cable included with a modem is available. To create a cable by the user, refer to the following cable connection diagram.

The cable length must be up to 15m.

Modem Pin No.	Cable connection	GOT Pin No.
1		1
2		2
3		3
4		4
5		5
6		6
7		7
8		8
9		9

13. USB Keyboard

To use a USB keyboard, **GT Designer3 Version1.10L** or later is required.

Item	Specification
USB keyboard	Japanese 106 keyboard, English 101 keyboard, and forward-compatible keyboards (Japanese 109 keyboard and others) *1*2

*1: Only keys compatible with Japanese 106 keyboards and English 101 keyboards are available. (Keys other than on Japanese 106 keyboards or on an English 101 keyboards are invalid.)
*2: A keyboard with a particular function and others may not be available depending on the keyboard type.

14. USB Mouse

To use a USB mouse, **GT Designer3 Version1.10L** or later is required.

Item	Specification
USB mouse	2 or 3-button USB mouse *1

*1: A particular USB mouse and others may not be available depending on the USB mouse type.
Particular function examples:
A composite device (a device with a USB hub function, a card reader, a numeric keypad, or others), a 4-button mouse, and a mouse whose functions are added by dedicated driver software

15. USB Hub

To use a USB hub, **GT Designer3 Version1.10L** or later is required.

Item	Specification
USB hub	USB hub compatible with USB1.1 (including forward-compatible USB hubs)*1

*1: A particular hub and others may not be available depending on the USB hub type.
Particular function examples:
A hub with 5 or more ports, a hub with multiple hubs, and a composite device with functions other than a hub function

Version	Print date	Revision
L	July 2009	- Deleted the contents of “1. Memory Card (CF card)“ and added a reference to the Technical Bulletin dedicated to CF cards
M	-	- Revised the contents of "3. Barcode Reader” - Revised the contents of “4. 2D Code Reader” and added models - Revised the contents of ”11.RFID Controller” - Added ”12.Modem” - Added ”13.USB Keyboard” - Added ”14.USB Mouse” - Added ”15.USB Hub”
N	February 2010	- Revised the contents of ” 2.USB Memory” - Added models to ”11.RFID Controller”
P	-	- Revised the contents of “2. USB Memory” - Added the models to “6. Printer” - Added the models to “12. Modem”
Q	-	- Revised the contents of “2. USB Memory”
R	October 2010	- Added "5. Hubs for Ethernet Connection and Gateway Function"
S	December 2010	- Added the models to "3. Barcode Reader" - Added the models to "4. 2D Code Reader" - Added the models to "5. Hubs for Ethernet Connection and Gateway Function"